

- ✓ Page 8, line 29, delete the words "liquid-crystal alignment".
- ✓ Page 20, lines 28, 29 and 30, delete the words "liquid-crystal alignment".
- ✓ Page 21, lines 4 to 5, delete the words "liquid-crystal alignment".
- ✓ Page 23, lines 5, 6, 7 and 14, delete the words "liquid-crystal alignment".

IN THE CLAIMS:

A version of the amended portions of the Claims with markings to show changes made is included at the end of this document.

Please amend the claims as follows:

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1. A method of preparing a multi-domain liquid-crystal display, which is operable in the in-plane switching mode, comprising the steps of:
depositing a dry deposit alignment layer on a substrate; and
aligning said dry deposited layer using at least two methods selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field.

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4. The method of claim 1, wherein said photo-resist method comprises:
depositing on a transparent conductive layer on a substrate a material to form said dry deposited layers;
partitioning said dry deposited layers into first domain areas and second domain areas of the dry deposited layers;
bombarding said dry deposited layers with a first ion beam; thereafter
covering said first domain areas of said dry deposited layers with a mask leaving said second domain areas open;
bombarding said second domain areas with a second ion beam; and
removing said mask.

9. A multi-domain, wide viewing angle liquid-crystal display, comprising:
a bottom substrate having a first surface;
a first transparent conductive layer disposed over said first surface of said bottom substrate;
a top substrate having a second surface;
a color filter layer disposed over said second surface of said top substrate;
a second transparent conductive layer disposed over said color filter;
a first dry deposited layer over said first transparent conductive layer;
a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;
a plurality of uniformly sized transparent or non-transparent spacers distributed within said space; and
a liquid-crystal material disposed in the space therebetween;

B3 wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains; wherein each of said multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods,

wherein said dry deposited layers are exposed to a particle beam;

wherein said particle beam is directed at said dry deposited layers at an adjustable angle with respect to said dry deposited layers, and

wherein said liquid-crystal display is operable in the in-plane switching mode.

10. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by mechanical mask method.

11. The multi-domain, wide viewing angle liquid-crystal display of claim 10, wherein said mechanical mask method comprises:

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depositing on a substrate a material to form a transparent dry deposited layer;
masking said dry deposited layer into first domain areas and second domain areas of the dry deposited layer with a mask; and
selectively bombarding said dry deposited layer with an ion beam through said mask.

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18. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by photo-resist method.

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22. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by said UV treatment method.

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26. The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by said ridge and fringe field method.

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29. An improved method of preparing a liquid-crystal display of the type having the steps of forming a first dry deposited layer, forming a second dry deposited layer, spacing the first dry deposited layer and the second dry deposited layer adjacent to and facing each other and filling a liquid-crystal material in the space therebetween, wherein the improvement comprises the steps of:

forming a first multi-domain dry deposited layer;

forming a second multi-domain dry deposited layer;
spacing said first multi-domain dry deposited layer and said second multi-domain dry deposited layer adjacent to and facing each other; and
filling a liquid-crystal material in the space therebetween;
wherein each of said multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field, and

wherein said liquid-crystal display is operable in the in-plane switching mode.

30. An improved method of preparing an in-plane switching mode liquid-crystal display of the type having the steps of forming a first polyamide alignment layer and a second polyamide alignment layer, wherein each of the first and second layers is rubbed with a mechanical roll wrapped in a velvet cloth, wherein the improvement comprises the steps of:

forming a first dry deposited alignment layer;
forming a second dry deposited layer;
spacing said first dry deposited layer and said second dry deposited layer adjacent to and facing each other; and
filling a liquid-crystal material in the space therebetween;
wherein each of said dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field;

wherein said dry deposited layer is exposed to a particle beam;

wherein said particle beam is directed at said dry deposited layer at an adjustable angle with respect to said dry deposited liquid-crystal alignment layer, and

wherein said liquid-crystal display is operable in the in-plane switching mode.

31. A wide viewing angle in-plane switching mode liquid-crystal display, comprising:

a bottom polarizer;

a bottom substrate;

a top polarizer;

a top substrate;

a color filter layer disposed over a surface of said top substrate;

a plurality of common electrodes disposed in the bottom substrate plane and a plurality of pixel electrodes disposed in a staggering relationship therewith to form a comb-like structure for producing an electric field parallel to plane of said bottom substrate so that when operated, the molecules of said liquid-crystal material are switched to rotate by said vertical electric field in a direction parallel to the substrate surface;

a first dry deposited layer over said bottom substrate and said comb-like electrodes;

a second dry deposited layer over said color filter layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;

a plurality of uniformly sized transparent or non-transparent spacers distributed within said space; and

a liquid-crystal material disposed in the space therebetween;

wherein said dry deposited layer is exposed to a particle beam;

wherein said particle beam is directed at said dry deposited layer at an adjustable angle with respect to said dry deposited layer,

wherein said dry deposited layers are aligned by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field, and

wherein said liquid-crystal display is operable in the in-plane switching mode.